Installation & Quick Start Guide

iNavConnect Wireless Router

1. Introduction

Congratulations on the purchase of your iNavConnect Wireless Router. It is recommended that your router is installed by a professional installer. If the iNavConnect is to be connected to the internet via a Digital Yacht WL510 long range Wi-Fi Adaptor or to a Raymarine network, it is recommended that this installation/configuration is carried out by someone with suitable IT experience and knowledge of ethernet networks.

The iNavConnect can be used in the following configurations;

1) As a simple Wireless Access Point or Wireless Router for setting up a wireless network on-board a boat

2) In conjunction with a Digital Yacht WL510 to share the long range internet connection with everyone on-board

3) With a Raymarine SeaTalk^{hs} compatible multifunction display to share routes and waypoints with the Navionics App running on a suitable mobile wireless device (Plotter Sync).

4) A combination of the above configurations

Before operating the unit you should familiarise yourself with this Quick Start manual and any manuals for the equipment you intend to interface with iNavConnect.

2. Before you start

You will need the following items and tools to complete the installation:

- The iNavConnect Router
- RJ45 Cat 5 cable to connect between the iNavConnect and your ethernet network
- A connection to the boat's 12v/24v DC supply where the unit is to be installed.
- M3 or M4 screws or other fixings appropriate to the mounting location.

To test and configure the iNavConnect you will need:

- A PC, Mac, iPhone/iPad or other wireless device that has a web browser such as Internet Explorer, Google Chrome, Firefox, etc.

To connect the iNavConnect to a Raymarine SeaTalk^{hs} compatible multifunction display (MFD) or GPM400 Processor Module (GPM400.) then you will need a:

- C-Series Widescreen (C90W,C120W, C140W)
- E-Series Classic (E80, E120)
- E-Series Widescreen (E90W, E120W, E140W)
- G-Series Navigation System (GPM400 Processor)
- A Raymarine Network cable or SeaTalk^{hs} Network Switch
- A latest copy of the Navionics App running on a compatible iPhone/iPad or Android Device.

To use the iNavConnect to share a long range Wi-Fi internet connection on board the boat, then you will need a;

- Digital Yacht WL510 Long Range Wi-Fi Adaptor

3. Installation

Before starting installation select a suitable location for the iNavConnect Router. The unit is designed for below deck mounting on board a boat and is not water resistant. It should be installed in a cool, dry location and can be mounted on a vertical or horizontal surface. When locating the unit you should consider:

- Routing of power and network cables to the unit.
- Provision of sufficient space around the unit for cable connections.
- Routing of optional network connections to a WL510 Long Range Wi-Fi Adaptor (if necessary).
- Maintaining the compass safe distance of 0.5m.
- Best location for Wi-Fi reception i.e. not inside a metal enclosure

Installation Step 1

- Siting of the iNavConnect is critical for Wi-Fi reception. The unit features a 5dB antenna which should give up to 30m range but it is important that the unit is sited in a central location within the boat to try and ensure that Wi-Fi reception is good in all areas of the boat.

- If the unit is to be hidden away behind a bulkhead, Wi-Fi reception maybe reduced. In this situation, it is advisable to fit an SMA extension cable, which is available from many suppliers. The Extension cable length should be kept to a minimum, between 1m and 3m would be recommended.

- To fit an SMA Extension cable, unscrew the 5dB antenna from the iNavConnect and screw the extension cable between the iNavConnect and the antenna. Now you will be able to hide the iNavConnect unit behind a bulkhead and mount the antenna in the cabin for maximum Wi-Fi range.

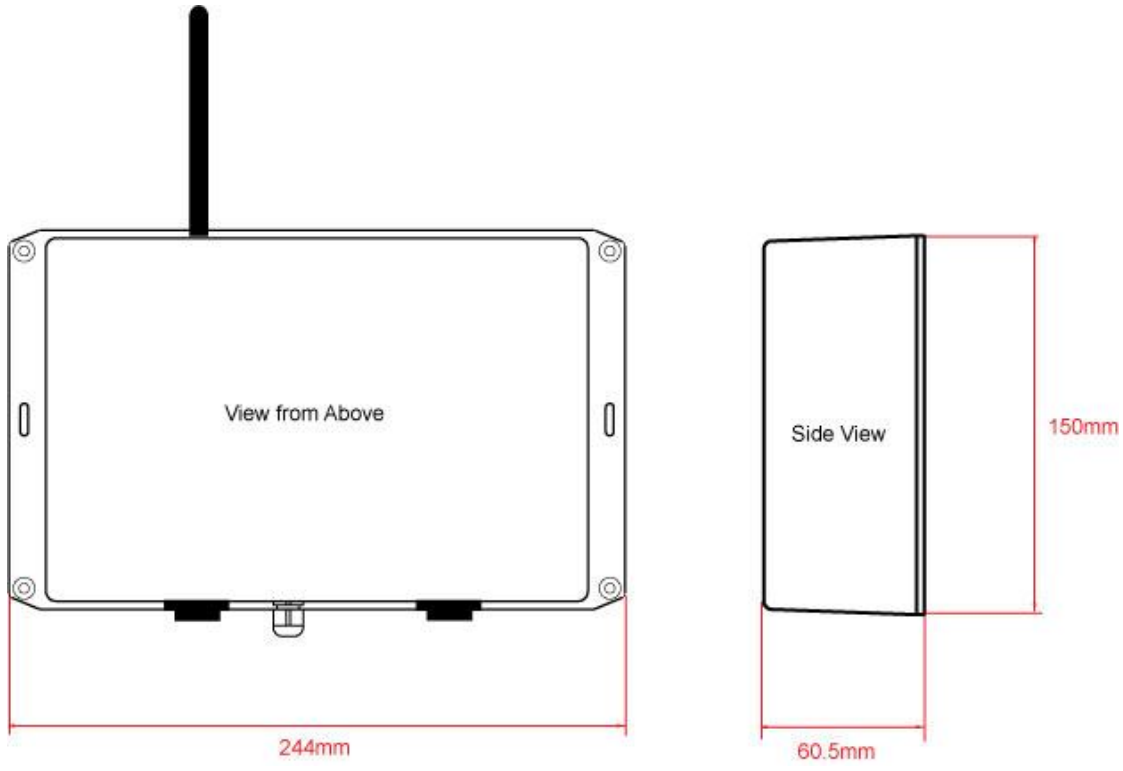
- Provide power connections to the unit from the boat's supply. Power is connected to the iNavConnect's two core Power cable on the Red and Black wires. The Red wire is the positive (+) connection. The Black wire is the negative (-) connection.

- Connect the stripped wires to the nearest source of primary 12V or 24V DC power. **Ensure that the supply is connected via the supplied 1A fuse or suitable circuit breaker.** Add the fuse in the positive power connection to the unit if necessary.

Installation Step 2

- Use suitable fixings (not supplied) to fix the INavConnect to a flat surface – using the dimensions and details shown in the drawing below. Note that the unit may be installed in any orientation.

Dimension drawing



- Once the unit is secured in place, position the antenna so that it is pointing vertically upwards or if connected via an extension lead, mount and secure the antenna within the cabin area.

Installation Step 3

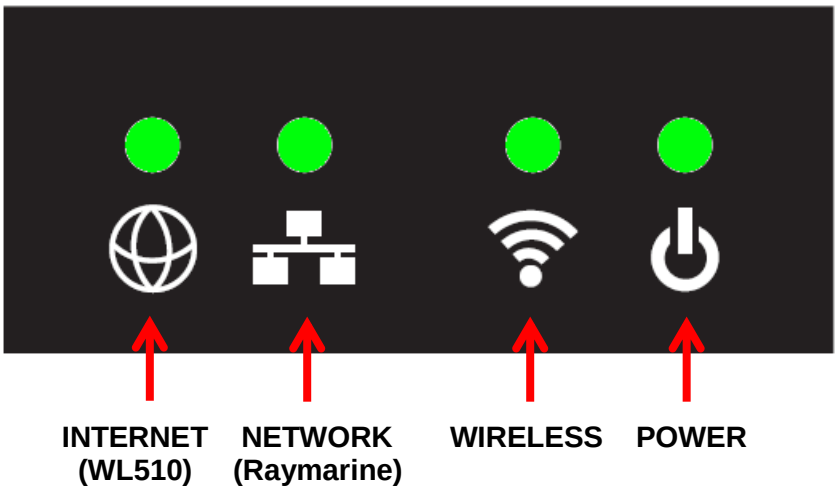
- The following steps only need to be followed if you are connecting the iNavConnect to a Digital Yacht WL510 long range Wi-Fi Adaptor.
- Using the network cable supplied with the iNavConnect or the WL510, insert one end in to the iNavConnect socket labelled “WAN Internet (WL510 option)” and the other end in to the WL510 network socket.

Installation Step 4

- The following steps only need to be followed if you are connecting the iNavConnect to a Raymarine SeaTalk^{hs} compatible multifunction display (MFD) or GPM400 Processor Module (GPM400.)
- For connection to a single Raymarine multifunction display, you will need a Raymarine network cable. Due to the waterproof connector that Raymarine use, a normal commercial off the shelf network cable will not secure correctly in the network socket on the rear of a Raymarine (MFD).
- Insert the waterproof RJ45 connector end of the Raymarine network cable in to the network socket on the rear of the Raymarine MFD. Make sure it is securely inserted and the threaded waterproof cover is screwed down tightly. Insert the other end of the Raymarine network cable in to the iNavConnect socket labelled “Navigation Network/LAN”.
- For connection to a larger Raymarine Network with multiple MFD units, you will need to connect to the Raymarine SeaTalk^{hs} Network Switch. Using the standard network cable supplied with the iNavConnect plug one end in to a free socket on the Raymarine SeaTalk^{hs} Network Switch and the other end in to the iNavConnect socket labelled “Navigation Network/LAN”.

Installation Step 5

- Now that we have all of the connections made, we can apply power to the iNavConnect. If you are using the iNavConnect with a Digital Yacht WL510, it is recommended that power is applied to the WL510 before attempting to power up the iNavConnect. This ensures that the WL510 is ready to give the iNavConnect the correct internet connection settings as it powers up.
- As the iNavConnect powers up the LEDs on the top side of the unit will briefly illuminate and then only the Power LED will stay illuminated. Below is an image that shows what each LED indicates.



- After a few seconds the Wireless LED will illuminate to indicate that the iNavConnect has created the Wireless network – once this occurs your wireless device should be able to scan and connect to iNavConnect.

- If you have a WL510 connected the “INTERNET (WL510)” LED should illuminate and if you have a Raymarine system connected, the “NETWORK (Raymarine)” LED should illuminate. NOTE – neither of these LEDs flash when data is being transmitted and if either network connection is not available, the relevant LED will not illuminate.

- When you connect a wireless device to the iNavConnect, the “WIRELESS” LED will flash as wireless data transfer occurs.

4. Network Configuration

Digital Yacht have pre-configured the iNavConnect so that in most situations it will work straight out of the box with no additional configuration required. The iNavConnect default settings are as follows;

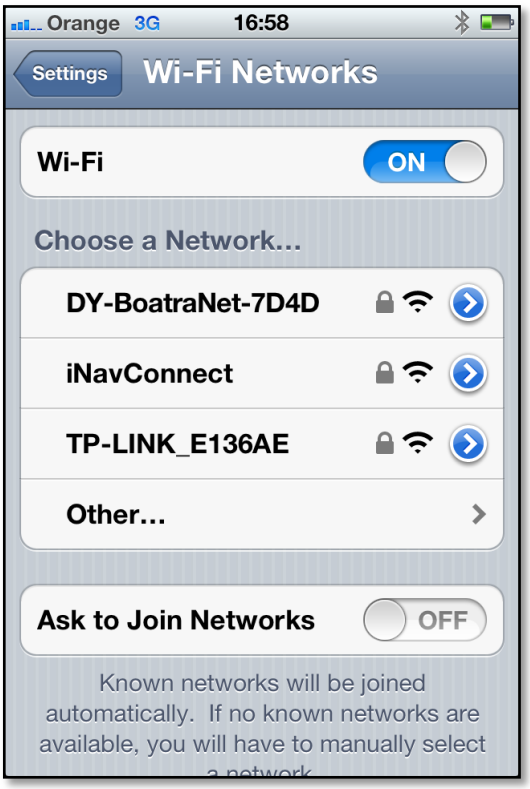
IP Address	-	10.0.0.1
Subnet Mask	-	255.0.0.0
DHCP Range	-	10.22.0.0 to 10.22.0.255
SSID	-	iNavConnect
Password	-	inavconnect

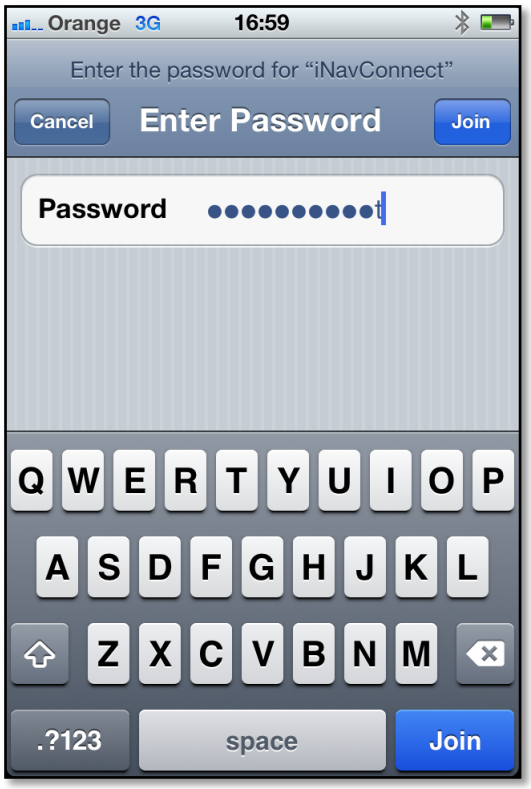
The choice of IP addresses has been made to ensure that iNavConnect works with a Raymarine network. However, if you are not using the iNavConnect with a Raymarine network and you are experienced with configuring PC networks and wireless routers you can easily change all of the network settings via the Router’s web interface in the normal manner – this procedure is not covered in this Quick Start Guide but if you need further assistance in setting up your iNavConnect please contact;

support@digitalyacht.co.uk.

5. Wirelessly Connecting to iNavConnect

To connect wirelessly to iNavConnect, simply initiate a scan of wireless networks on your wireless device i.e. Laptop, iPhone, tablet, etc. and select the “iNavConnect” network. Below are two screen shots showing this procedure on an iPhone. When you select “iNavConnect” you will be prompted to enter a wireless password – type in “inavconnect” (all lower case and do not include the quotation marks).



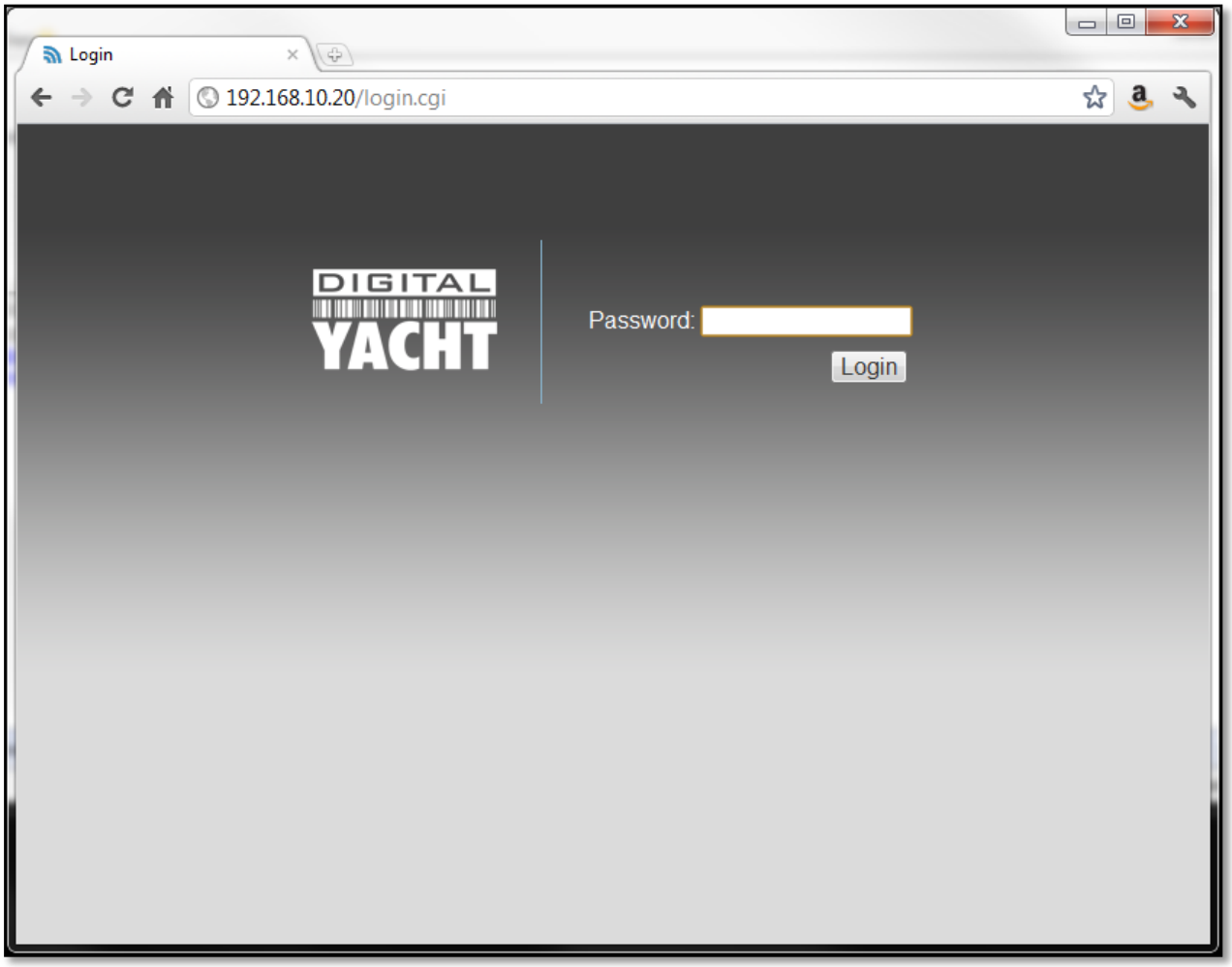


When you have wirelessly connected to iNavConnect, you can start to share the long range Wi-Fi connection, if you have a WL510 connected or do Waypoint and Route transfer to your Raymarine System as detailed in the next two sections.

5. Sharing Long Range Wi-Fi Connection

When you use the iNavConnect with the Digital Yacht WL510, all routing of the wireless connections to the internet are automatically configured.

After you have connected wirelessly to the iNavConnect as detailed in section 4, you should be able to display the WL510 login page by typing 192.168.10.20 in to the address bar of your internet browser, see screen shot below…



This shows that communication between the iNavConnect and WL510 is working correctly and you should now be able to log on to the WL510 and initiate a long range wi-fi connection with a Marina or local hotspot in the normal manner detailed in the WL510 Quick Start Guide. Once the long range connection is established then all wireless devices connected to iNavConnect will be able to access the internet.

6. Using Plotter Sync on Raymarine System

If you are using iNavConnect with a Raymarine system to wirelessly share waypoints and routes with the Navionics App, then you will need to wirelessly connect your iPhone/iPad or Android device to iNavConnect as detailed in section 4.

Once connected, you should run the Navionics App and it will automatically connect to the Raymarine network. Now all of the Routes and Waypoints that you create on your Raymarine MFD or on the Navionics App will be immediately synchronised between the two devices and any other Raymarine MFDs on the network.

It is important to note that if you create a new route on your Navionics App, it will be automatically synchronised to your Raymarine MFD but, only the waypoints will appear. In order to make the route appear, you will have to go in to "Planning>My Routes", select the route in the Route List and select the "Show" Route on Chart option. Then the route legs, as well as the waypoints will be displayed on the chart.

WARNING – On the Navionics App, there is a setting called "Sync my data" (see screen shot) which is a useful feature for people that have multiple mobile devices all running the Navionics App. It automatically syncs Markers, Routes and Tracks that you create on one device with those on your other devices and it uses the Navionics Web Server to do the synchronising. This is a different data sync function to the one used with Raymarine MFDs and it should always be turned OFF when using iNavConnect and Raymarine MFDs.

If this "Sync my data" function is turned on, the iPhone/iPad or Android device will try and connect to the internet via iNavConnect and when it fails, causes the Navionics App to run very slowly and not synchronise data correctly with the Raymarine MFDs.